PROGRAMMING WARS

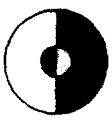
"There will be some fatal accidents along the way to the super information highway," *Stanley S. Hubbard*, President and CEO of **Hubbard Broadcasting** told his SkyFORUM audience.

Indeed. As the various players -- equipment makers, programmers and services -- jockey for their share of tomorrow's information-entertainment dollars, the key question on everyone's mind is who will survive, and thrive, into the next century.

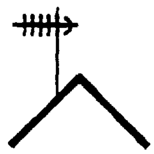
According to recent surveys, **C-BAND** customers are richer, older and better educated than the average American. They generally live in rural areas and favor movies, sports and news programs.

The only **MEDIUM-POWERED KU-BAND** service, cable-co owned PRIMESTAR aims initially for rural (read non-cbl'd) markets. Late this yr PRIMESTAR will add 13 PPV chs and 15 regn'l sports nets to its line-up.

HI-POWER KU-BAND services of DIRECTV and USSB lean heavily to movies with premium chs and loads of PPV. While USSB sees primary audiences in suburban/urban areas, DIRECTV plans to start semi-rural.



With huge audiences in urban/suburban areas, **CABLE** offers well-known basic and premium channels. To add capacity, the services must upgrade significantly, a slow process expected to last well into 21st century.



Little known a few years ago, **WIRELESS** cable services now offer most cable channels plus significant PPV in already cabled territory. Limited by b'cast range and hills, wireless has mixed success so far.

For their part, today's successful programmers see a battle field mostly strewn with roses. For example, **HBO**'s Senior Vice President, Technology Operations *Bob Zitter* noted that his service "provides and sells programming through all distribution channels available." In other words, no matter who wins or loses -- in cable, DTH or even wireless -- the **Time Warner** giant will have its share of territory captured.

Turner programming services are in similar positions with cable, wireless and DTH all pumping revenue to Atlanta. As for the C-band/DBS arena, Vice President foı **Turner Satellite Systems** *Wes Hanemayer* noted, "The same venues (are) available for both ... but packaged in slightly different formats." Turner, however, is experimenting with one channel -- **Turner Classic Movies** -- which, due primarily to cable's lack of channel space, will be available predominately through home satellite services as it launches.

As for the great debate of cable *vs* DTH (and especially DBS) participants at SkyFORUM were high on home satellite's odds in the future.

"From the start," Hubbard noted, "DBS will offer consumers more choice than they ever had before." In other words, today's typical cable system size of 36 to 54 channels pales beside the 150 channels that the **DIRECTV/USSB** services say they'll offer late this year (much less the 250-300 channels that C-band equipment brings today.) Meanwhile, *Roy Bliss*, President and COO of **United Video Satellite** which serves both cable and DTH markets labeled DTH "an integral part of entertainment distribution."

He said, however, that he expects to see some changes in where DTH revenue comes from. "I think there'll be a shift between ad and subscription streams," Bliss told SkyFORUM. As this shift happens, a la carte services (subscription services sold on an individual basis) and pay-per-view programming should gather ever greater proportions of the consumer's entertainment dollar.

As for any C-band/DBS struggles, SkyFORUM participants generally favored both arenas -- but for different reasons. To demonstrate the choices offered through DBS, Hubbard pointed to DIRECTV's eventual line-up of 75 pay-per-view channels plus he praised DBS' ability to offer true niche programming -- for example, the Physician's Network Service.

Meanwhile, SkyFORUM participants pointed out that C-band has long thrived on sports -- a favorite programming for both home viewers and commercial establishments such as bars. Indeed, today's C-band line up includes large numbers of dedicated sports channels with dozens of sports-viewing opportunities on more general channels. Among DBS entrants, PRIMESTAR lists a line-up of 15 regional sports channels while DIRECTV touts only ESPN.•

Scouting Report: Wireless Cable & Fiber Optics Gain Ground

No one expects cable and wireless cable companies to sit idly by while the DTH industry takes off. In fact, over the past year, wireless has been moving steadily into the entertainment/info marketplace with rapidly expanding systems encroaching on cable's once-sacrosanct territory. By some estimates this fledgling competitor has seen "dozens" of prospective IPO's filed in the last year while in the last month or so, two systems, in southern California and Arizona, have turned the cash-flow positive corner.

Meanwhile, cable's rush to fiber optic (which allows for greatly increased channel capacities) continues. As **GI Communication Div's** Pres *Hal Krisbergh* noted at SkyFORUM, **TCI** expects to have fiber in 30% of its systems within five years.•

Best Fireworks: Those who arrived at SkyFORUM expecting a quiet day came to the wrong event as fireworks erupted in the second morning session. **DIRECTV**'s Eddy Hartenstein got the ball rolling when he tossed off the term "dish envy" referring to his 18" antenna *vs* **PRIMESTAR**'s 3'. PRIMESTAR'S *John Cusick* responded by pooh-poohing the ability of smaller dishes to bring in suburban and urban customers. "It's against the law to deliver network signals to people who can get them off air," he said. "So in at least 90% of the market, (DBS services) can't deliver what most people want to watch most of the time."

In a reference to PRIMESTAR's mainly cable-co ownership, **USSB**'s *Stanley S. Hubbard*, replied that PRIMESTAR was started "to throw the real DBS off track." **Thomson Consumer Electronic**'s *Joe Clayton* extolled the superior sound and picture quality of DBS *vs* cable. Members of the audience muttered that hi-powered dish systems will, after all, offer A/B type switches for easy switch-over to b'cast reception ... and so the day progressed. •

Not a Correction:

The 18 Million Question

When we announced last issue that some 18 million homes in the U.S. are prime pickings for DBS (ie homes not passed by cable), eyebrows raised faster than umbrellas in a New York rainstorm.

Kagan's *John Mansell* championed a number closer to 4.5 million (how that was arrived at he wasn't sure); others claimed that 10 million is nearer to the mark; and one even insisted that our figure was on the low side.

Obviously the truth remains a bit shadowy but we believe we have a good argument for our data. To wit: We were not looking at television households but households period. (The reasoning being that today's non-TV household is not automatically excluded from having television in the future.) To come up with our numbers we used Census Bureau figures for total U.S. (and state) households subtracted A.C. Nielsen's figures on homes passed by cable and -- voila! some 18 million U.S. homes *not* passed by cable.•

SkyTRENDS
A project of the **Satellite Broadcasting and Communications Association**
in conjunction with
MEDIA BUSINESS CORP
SBCA President: Chuck Hewitt
SBCA Project Chairman: Scott Weiss, Turner Home Satellite, Executive VP and GM
Project Managing Director: Evie Haskell

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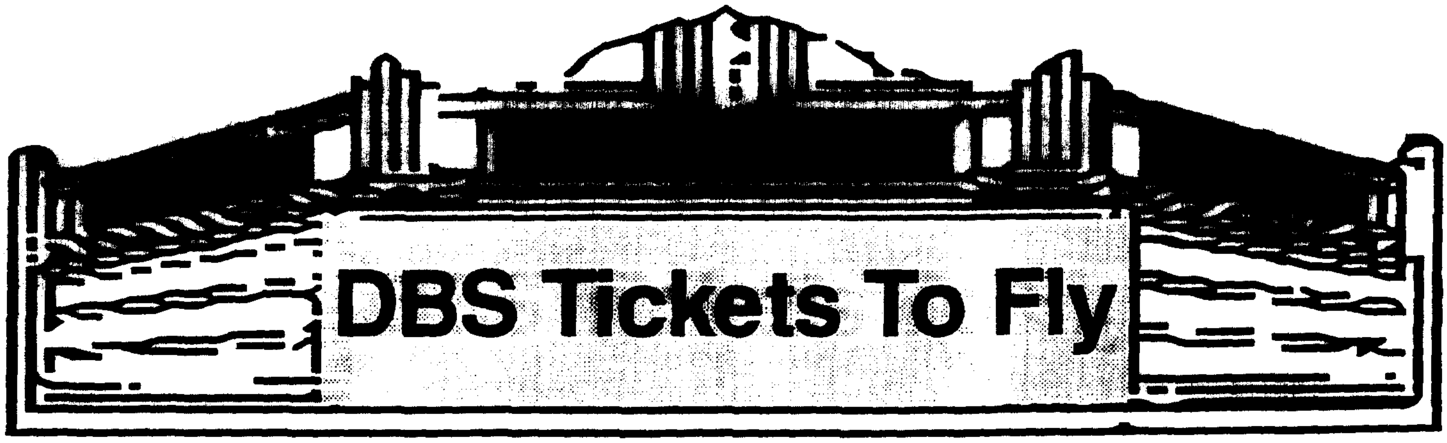
SkyREPORT is a monthly newsletter produced by MEDIA BUSINESS CORP for the Satellite Broadcasting and Communications Association's SkyTRENDS project. The newsletter seeks to provide up-to-date business trend and statistical information for the financial community, members of the home satellite industry and all others interested in this business.

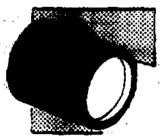
We would like to hear your comments and suggestions and would deeply appreciate any reports, data or other information that you might be willing to share. Confidentiality is guaranteed where requested.



DBS Tickets To Fly

Ready, set and the flight has begun with the first round of DBS program distributors lining up for a spring through winter marathon that may well determine who will lead the DBS pack into the future. First out of the box, of course, is **PRIMESTAR.** In late March this predominately cable-company owned service got a jump start on its competitors by beginning to switch its 70,000 existing customer from analogue to digital services. The switch will take a couple of months, however, and by then (in May or June), **USSB** and **DIRECTV** (and its **NRTC** partner) will get on track via the **Hughes** DBS 1 satellite.

As the first packages roll out, consumers will see monthly programming costs ranging from a low of $7.95 (USSB's six-channel Essentials package) to approximately $50 or more (PRIMESTAR with all the bells and whistles added). Compared to average cable prices of around $31 for less than half the number of channels, these figures don't look too bad. (Even when equipment costs -- **RCA/-Thomson**'s $700 DSS price tag or PRIMESTAR's $100-200 installation fee on leased systems -- are included)



USSB:

$7.95/mo. - Essentials

As a stand-alone service, USSB's **Essentials** includes the **All News Channel, Comedy Central, Lifetime, Nickelodeon, MTV** and **VH-1** channels.

In addition, USSB has available 14 Premium channels (five **HBO** feeds, three **Cinemax** feeds, three **Showtime** feeds, two **Movie Channel** feeds and **FLIX**).

Other options available to consumers include:

$10.95/mo. -For this fee, customers do not receive the Essentials package but may choose *either* three Showtime feeds *or* five HBO services.

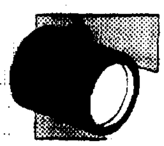
For those who would like the Essentials package, options include:

$24.95/mo. - **USSB Showtime Plus** - Showtime east and west, Showtime 2, TMC east and west and FLIX

$24.95/mo. - **USSB HBO Plus** - HBO east and west, HBO 2 east and west, HBO 3, Cinemax east and west and Cinemax 2

$34.95/mo. - **USSB Entertainment Plus** - with all USSB DSS premium programming

*Later offerings will include"Mini-Mass" niche services ("Mini" audiences can be combined, targeted and served by specific programming); two free channels, (advertiser-supported), available to anyone with a DSS system.



PRIMESTAR:

$25 - $35
(Prices set locally)

Basic line-up includes **C-SPAN**, **CNN**, **Headline News**, **Prevue Channel**, **TNT**, **TBS**, **The Discovery Channel**, **The Learning Channel**, **USA**, **The Family Channel**, **Cartoon Network**, **CMT**, **The Disney Channel** and special digital audio channels.

Add-ons:

***$9.95** (each) - Multiplex HBO and Cinemax

***$3.95 - $5.95** - Multiplex Encore

***$3.95 - $4.95**/title - Three PPV movie channels

Future Basic:
$25 - $35

By mid-summer, PRIMESTAR's basic package will include 15 regional sports networks, **A&E**, **Sci-Fi**, **Lifetime**, **Turner Classic Movies**, **CNNI** and **Prime Sports**. PPV offerings will expand to 10 channels.

For some retailers selling C-band packages, these prices appear a bit stingy -- at least when it comes to the question of retail commissions.

The major point of contention is simply that DBS sales will not net as much as C-band for retailers. Speaking of proposed DBS commission structures, *Charlie Abbott*, president and general manager of **Satellite Scanners Plus**, says, "The DIRECTV material shows that retailers will get about 4% in commissions (from DIRECTV distributors) plus up to 2% as a bonus" for meeting or exceeding annual sales targets. For USSB, Abbott cites a 5% commission for "high-end" programming sales with the commission decreasing to 4% and then 3% for years two and three.

However as Abbott also points out, DBS sales are viewed as a high volume business, and if sufficient numbers of consumers belly up the the cash register, the total sales have the potential to more than make up for the percentages.

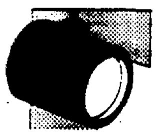
In addition to the commissions noted above, USSB retailers will receive $25 for each prepaid annual subscription to the Premium Plus Package. Premium Plus prepaid annual subscriptions will bring dealers another $15 for the second year and $10 for each of the next three years.

For both USSB and DIRECTV, equipment sales and installation will net $150 to $200 with $120 for installation only.

Despite the relatively low commissions, most existing retailers would like to have the DBS equipment in their shops. For example a recent SkyREPORT poll showed that more than 90% of C-band retailer respondents plan to add DBS to their line-up. Of those, 74% said they aim to sell both DIRECTV and USSB programming. A few also hope to handle PRIMESTAR equipment and programming through dealerships offered via **TCI's Netlink**.

As noted earlier, consumers will find DBS programming costs comparable to, or even less than, cable fees. The tickets on these pages offer a quick look at DBS programming available. Clearly, the DBS line-up leans heavily toward movie and pay-per-view channels. (And no wonder. As PRIMESTAR's *John Cusick* reports, since its inception, his service has recorded more than a 100% buy rate ... that is, more than one movie per month per subscriber.)

All the same, the movie emphasis stands in sharp contrast to C-band programming where -- while movies and news lead in numbers of subscribers --



NRTC:

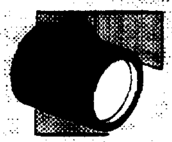
The wild card in Direct Broadcast Satellite programming is the National Rural Television Cooperative which, several years back, presented DIRECTV with some $100 million in exchange for exclusive rights to sell some of its programming in affiliative member territories.

As the deal eventually worked out, the participating affiliates may sell all DIRECTV programming in their areas plus they hold distribution rights to specific DIRECTV programming which includes: **Cartoon Network, CMT**, **CNBC**, **CNN**, **The Family Channel**, **Headline News**, **The Nashville Network**, **Turner Classic Movies**, **USA**, **A&E**, **Court TV**, **C-SPAN**, **C-SPAN2**, **E!**, **The Learning Channel**, **Sci-Fi**, **The Weather Channel**, **TBS**, **TNT** and **ESPN**.

While other DBS retailers in the area may sell the full DIRECTV package, they will receive commissions from the NRTC members and affiliates.

Customers will receive one bill for the full DIRECTV line-up from the NRTC member or affiliate.

DIRECTV:



$21.95/month - Personal Choice I

When the service reaches the first set of consumer eyeballs sometime in May or June, it will offer 23 - 25 channels including **ESPN**, **CNN**, **C-SPAN**, **USA**, **CNBC**, **ENCORE**, **The Discovery Channel**, **The Disney Channel**, **Headline News**, and a one-per-month free **Direct Ticket** coupon worth $3.95.

In addition, the service will offer a la carte subscription services such as Playboy available for **$5.95**/night or **$3.95** to **$9.95**/month.

$21.95/month - Personal Choice II

As the DBS 2 satellite begins service in late fall/early winter, an additional 70 - 75 channels will join the DIRECTV line up. Personal Choice I viewers will be able to convert to Personal Choice II which, for the same price, offers a selection of 29-plus additional channels as well as a choice of:

- 10 additional channels chosen from **Weather**, **E!**, **Court TV**, **The Travel Channel**, **CNN Int'l.**, **A&E**, **CMT**, **Newsworld Int'l.**, **Sci-Fi**, **The Family Channel**, **C-SPAN2**, **The Learning Channel**, **CNBC** and others still to be announced.
- Or the **ENCORE** multiplex (Love Stories, Westerns, Tweens, Mystery, Action, True Stories & Drama) plus **The Disney Channel**, **Music Choice**, plus one free **Direct Ticket** coupon worth $3.95/month.

$29.95/mo Total Choice

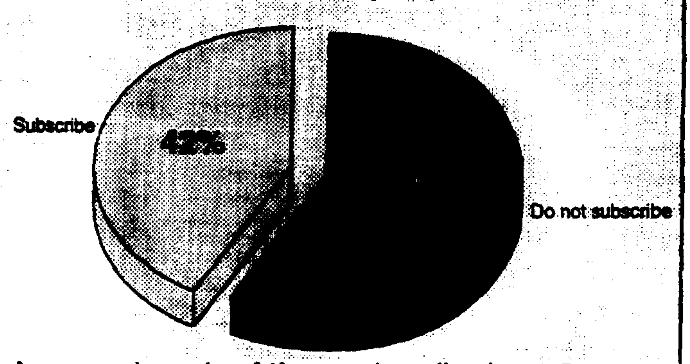
This selection offers 38-plus channels with the same options as above, and two $3.95/mo. coupons for Direct Ticket sports subscriptions have a definite advantage in percentage growth. To date, the only DBS service to offer a strong line-up in sports is PRIMESTAR where 15 regional sports networks will debut as the company increases its number of channels available.

While Cusick adds sports, DIRECTV's subscriber strategy clearly centers around movies and pay-per-view. (Some 75 PPV channels are expected by next fall or winter when the service ramps up to a 150 channel line-up.) Meanwhile, USSB has neatly captured two cable leaders with DBS exclusive access to multiplexed HBO and Showtime.

In niche programming categories -- an oft-cited prime directive for both DBS and cable fiber optics -- DIRECTV has plans to offer the Physician's Television Network with equipment free of charge to some 100,000 members seeking access to medical and continuing educational services. In addition, business programming wars are heating up the DBS skyway as **Dow Jones** recently invested $25 million in order to become USSB's preferred provider of business news and information. Meanwhile, DIRECTV has signed **Bloomberg Direct** which provides a morning business program plus (soon to come) a video business news package with three audio feeds.

So which of these DBS program distributors stand the best chance of success? No one knows, of course. Some observers have even suggested that C-band sales may win the day as DBS hoopla draws consumers into stores and, motivated by higher commissions and larger (some 250 to 300) channel availability, retailers and their customers continue today's big dish boom. Ah, dish envy.•

Subscriptions to programming

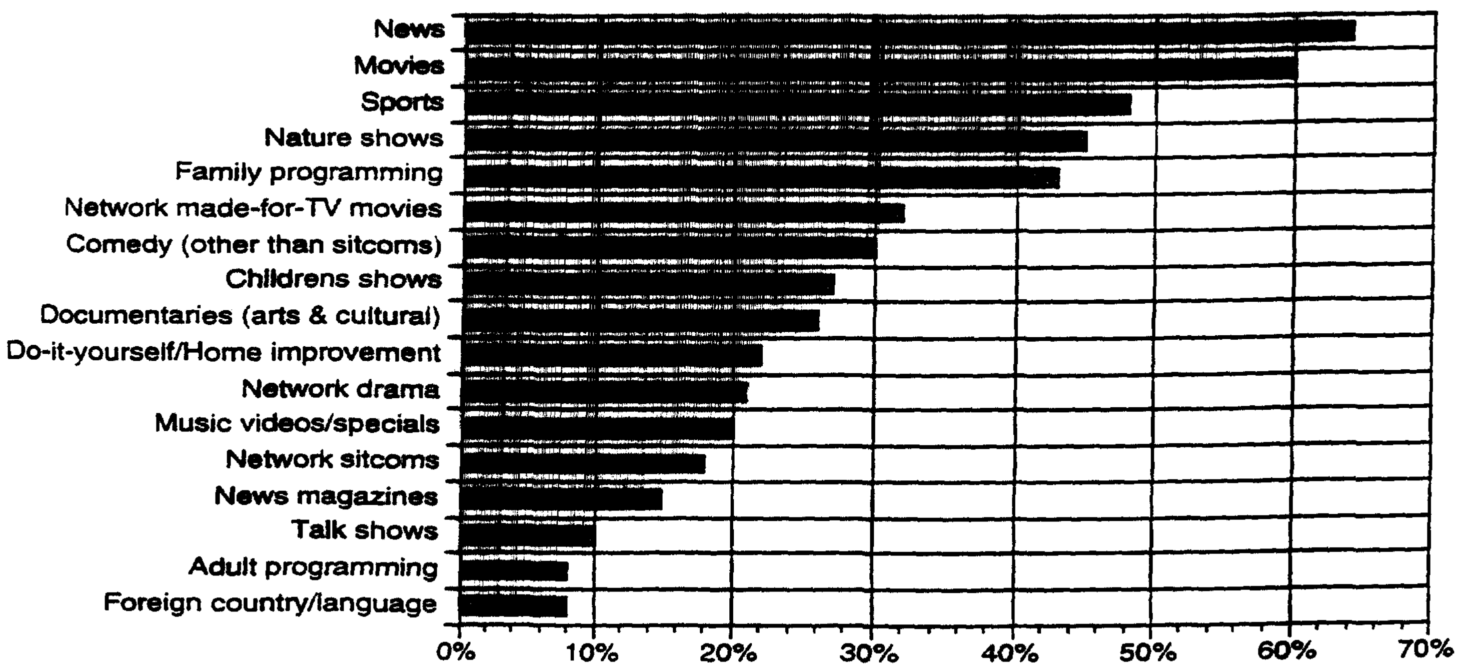


Average length of time subscribed = 4.5 years

Information provided by Bruskin/Goldring Research.

Household Interest in Programming Types

(Those mentioning "Very" Interested)



Information provided by Bruskin/Goldring Research.

What's good for you always seems to dominate the survey responses ... no exception in our industry. News is the "first" choice of survey respondents when asked their "preference" in programming. But ratings have never matched the wish lists of sampled viewers. Still, when distributors and retailers package programming for sale, it's a good idea to remember to highlight what people say they want ... as well as what we know they want. Like movies and sports and "family" programming. Note, too, how low on the totem pole "adult programming" fared. Yet, like boxing and wrestling, adult programming has fueled new programming formats and developments since TV's age dawned.

C-Band Subs Roll in As Holiday Blues Abate

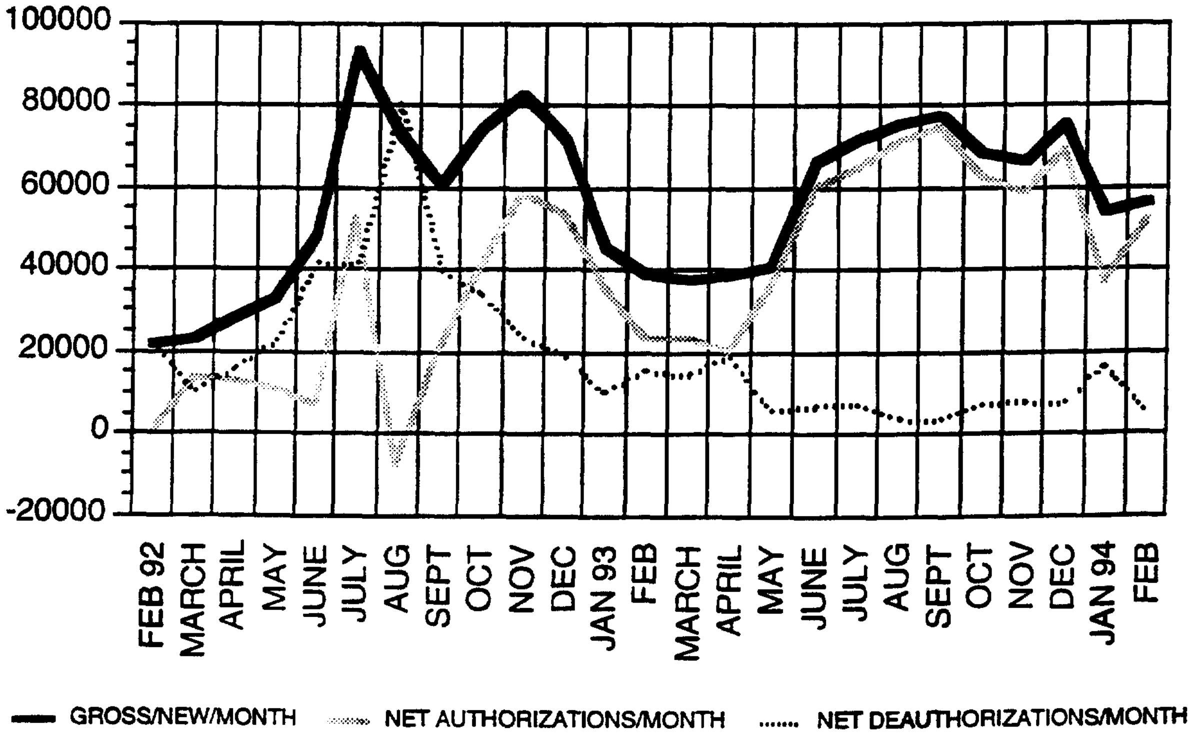
After a siege of holiday blues, credit-card tap out and seriously bad weather, the home sat industry is staging a strong revival with spring and summer looking brighter than ever.

But first, the bad news: As frozen sidewalks and falling temperatures kept consumers (and thus potential home sat system buyers) out of stores, C-band programming subscriptions dipped from December through January with gross new subscriptions falling by more than 22,000 from a high of 75,771 in December to a January low of 53,648. Net new subscriptions took a dive of approximately 31,700 subscribers from their December high of 68,791 to a January slowdown of 37,090. (This steep drop includes the depressing effect of more than 16,500 deauthorizations for the month, which may be partially due to list clean-ups.)

On the plus side, February figures and preliminary March results show renewed strong growth for the big-dish segment of the industry. This strength is expected to last at least through summer as pirates (individuals who sell chipped boxes which allow home satellite owners to receive programming for free) continue to go out of business thanks to **General Instrument**'s still-unbroken VideoCipher II+ consumer decoding technology. By this fall, GI's Authorization Control Center Analyst *Tom Romero* points out, pirated programming will be mostly a thing of the past and the real strength of C-band sales, including the effect of DBS entrants, will begin to show itself.

(The effect of GI's anti-piracy measures is best seen starting in May 1993 when the older VC II data streams were phased out. Since that time net new authorizations and gross new authorizations have kept pace with each other, showing an average net growth of more than 58,000 new authorizations per month.)•

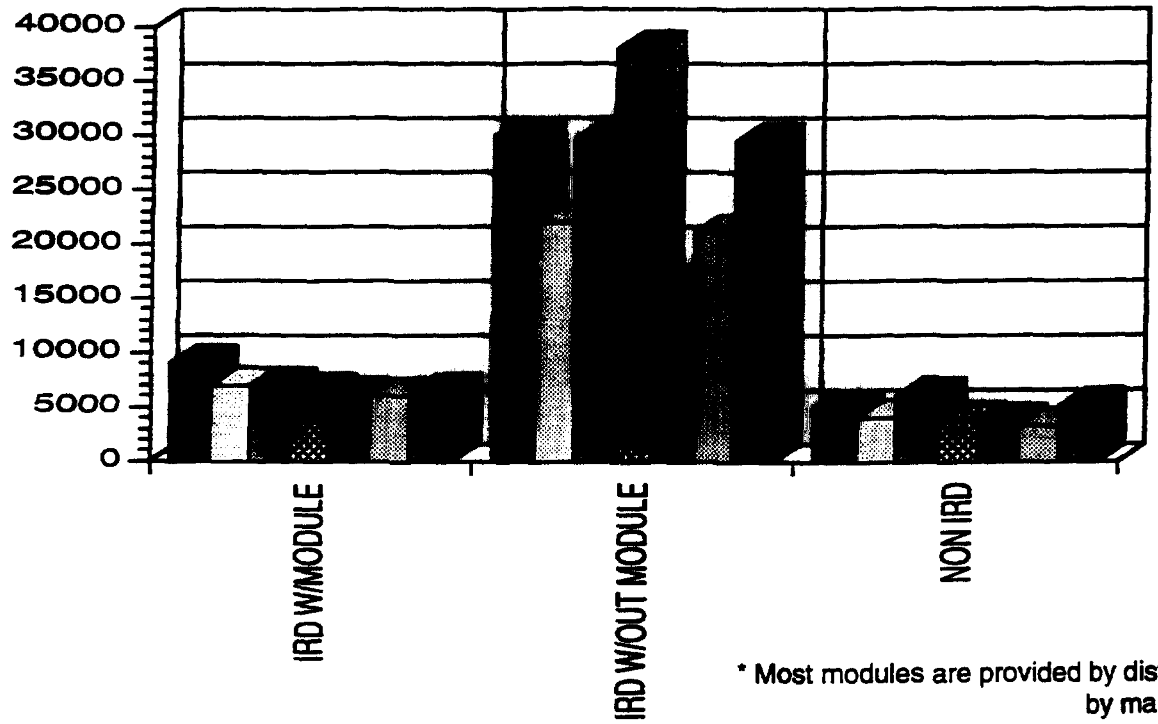
General Instrument Authorizations/Deauthorizations, 2/92 - 2/94



Subscription data provided by General Instrument.

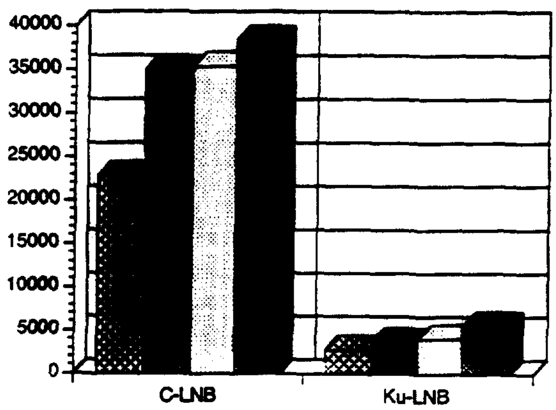
1stQ Equipment Sales

RECEIVER SALES 9/93 - 3/94 *



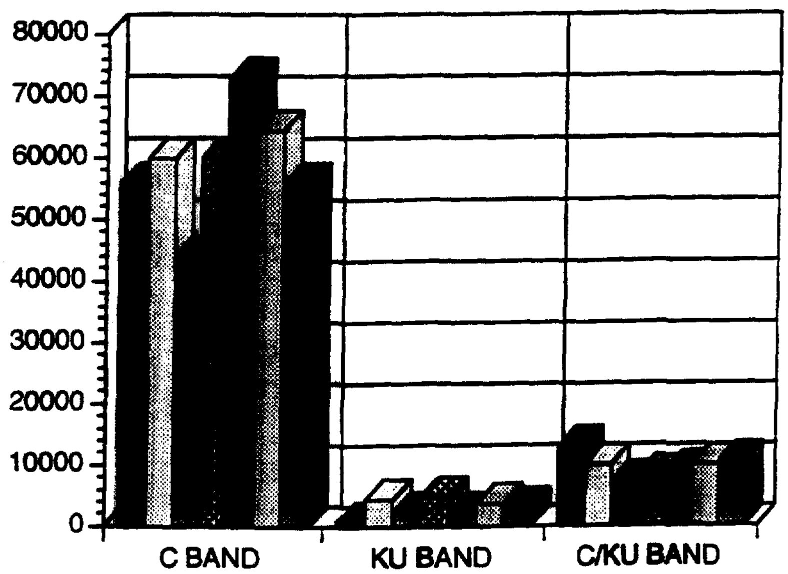
* Most modules are provided by distributors not by manufacturers.

LNB SALES 12/93 - 3/94



LNB sales have only been tracked since 12/93.

FEEDHORN SALES 9/93 - 3-94



Resume Upward Trend

After the cold-weather doldrums of January, February brought a much-needed (and widely-predicted) uptick in home sat equipment sales. Projected figures for March show further growth as equipment makers eye a strong spring sales season.

With all participating manufacturers reporting in, the numbers for January - March look like this:

Antennas:

Overall antenna sales jumped by some 22% in February over January and equipment makers predicted that March's figures would rise by another 8% . The majority of the sales occurred in the 7-7.5 and 10 foot dish categories. (Because SkyREPORT data does not include the majority of antenna sales, no numbers are listed on the chart. We believe, however, that the percentages validly represent this category.)

Receivers:

Receivers sales rose some 2% (or 545 units) in February over January. March projections call for an 8% rise over February (or 2200+ units).

LNBs:

LNB sales showed some improvement from January to February with sales edging up 2% or 755 units). Projections for March call for a boom with numbers rising nearly 4400, or more than 11%, over February.

Feedhorns:

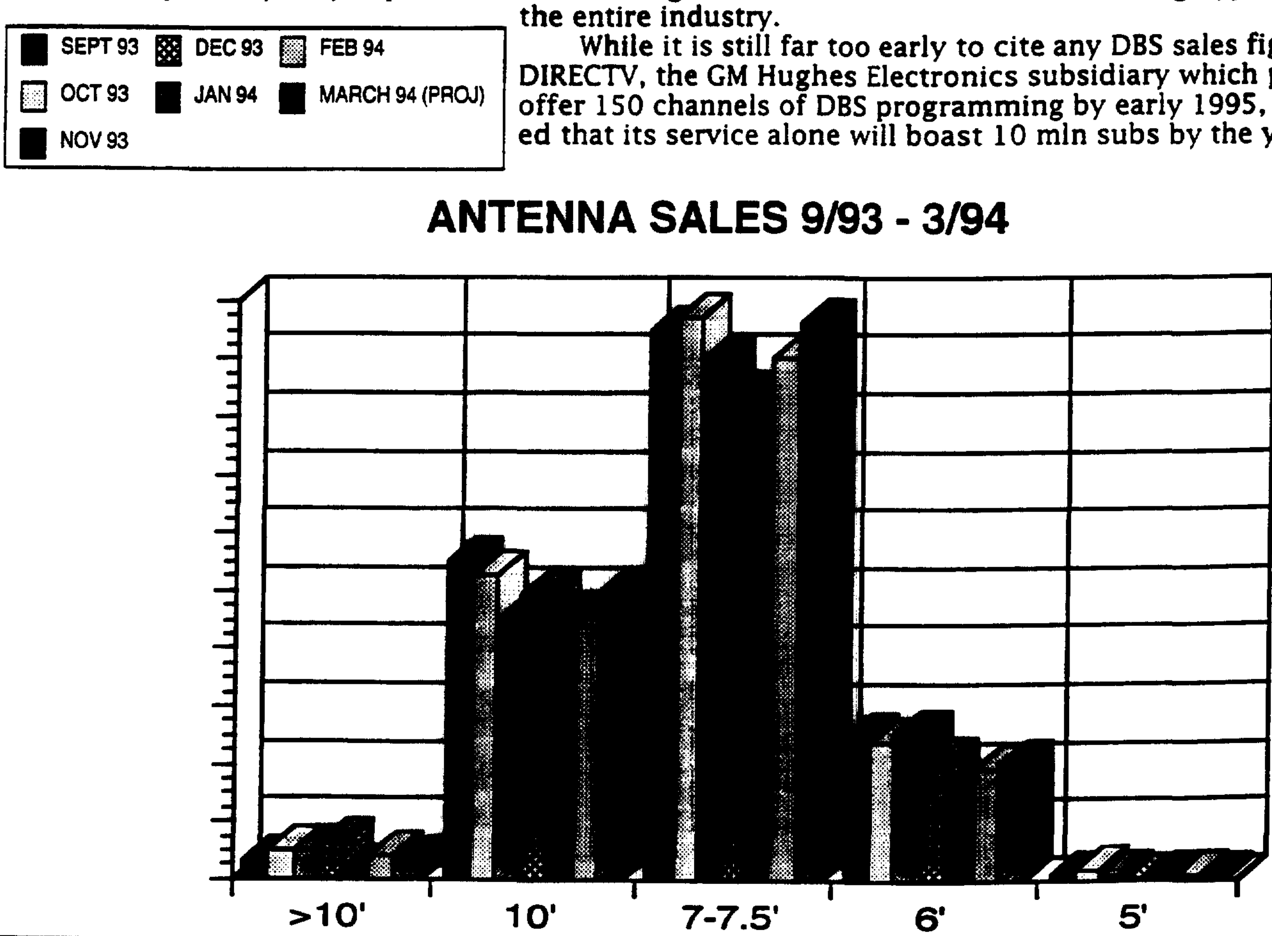
The only part of the home-sat system showing decreased sales, feedhorns moved from sales of just over 84,000 in January to 78,000 in February to a projected 69,000 units in March. The most weather-sensitive part of a satellite system, feedhorns had enjoyed a sales boom through the east and midwest freezes of December and January.

Future-look:

With DBS sales moving from talk to reality this spring, most home sat retailers (some 75% in a recent SkyREPORT poll) say they expect continued strength in C-band sales as DBS advertising hypes interest in the entire industry.

While it is still far too early to cite any DBS sales figures, DIRECTV, the GM Hughes Electronics subsidiary which plans to offer 150 channels of DBS programming by early 1995, has projected that its service alone will boast 10 mln subs by the year 2000.•

ANTENNA SALES 9/93 - 3/94



Cal Amp Revamp

Effective March 28, *Ira (Ike) Coron*, a former Vice President and General Manager with TRW, took the helm at **California Amplifier** (NASDQ: CAMP). The announcement came shortly after the resignation of former CEO *Barry Hall*.

Over the past year, Cal Amp shares dropped from a high of 10.5 in November, 1993, to a low of 4.5 on March 11 of this year. Just one week before the shift in the executive suite, the Dow Jones news service selected Cal Amp as one of four "Hot Stocks To Watch." Reasons cited for this choice were the co's depressed stock prices, expectations for a profitable 4th Q and the retention of Arthur Andersen & Co. to "improve operating efficiencies."

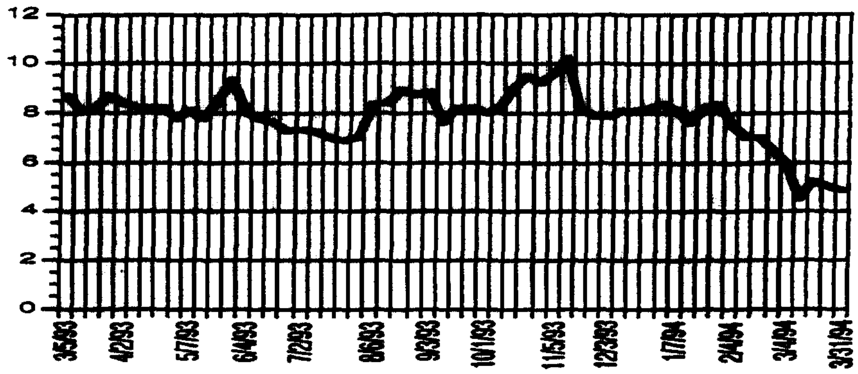
Started in 1981 and taken public in Feb. 1983, Cal Amp employs more than 400 people and produces equipment for the home satellite, wireless cable and cable industries. Currently, home sat holds an approximate 60-65% share of the co's business.

The wireless sector, however, is the fastest growing segment with one knowledgeable observer predicting that wireless products will match the company's home satellite sales within five years.

Some 65-70% of California Amplifier's business is international with Saudi Arabia, Mexico and Brazil taking the biggest chunks of the pie. On a down note, a recent announcement by the Saudi government that it will enforce a law banning satellite dish ownership, has, not unexpectedly, put a damper on sales there. Whether this ban will halt all home dish sales, however, is somewhat questionable as many of the country's most powerful people have a stake in the home sat business.

For the future, Cal Amp touts two new products: Multicipher, an inexpensive encryption system for use with wireless cable systems in developing countries; and Digi-Ready, a digital LNB. This extremely stable low noise block converter has both radio and compressed video applications •

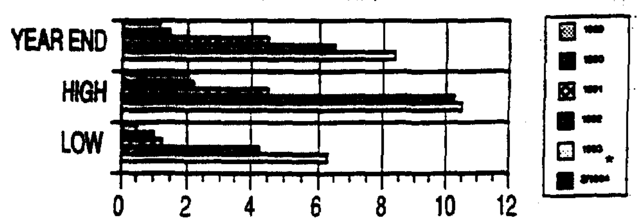
Stock History 3/93 - 3/94



KEY RATIOS			
	10.61	14.58	22.47
	0.65	1.29	0.54
	2.18	6.32	1.30
	0.56	0.99	1.38
	-0.04	-0.18	1.05

FINANCIAL STRENGTH	11/93	YEAR AGO	INDUSTRY
DEBT/EQUITY	0.05	0.08	0.26
LT DEBT/CAPITALIZATION	0.04	0.07	0.20
QUICK RATIO	1.11	0.78	1.13
CURRENT RATIO	1.99	1.31	1.62

Price History



* March figures represent month end, high/low

GROWTH RATE	1 YEAR		3 YEAR		5 YEAR	
	COMPANY	INDUSTRY	COMPANY	INDUSTRY	COMPANY	INDUSTRY
SALES	73.4	5.1	77.5	4	40.8	4.2
EARNINGS	92.9	-10.8	N/A	5	N/A	-7.2
DIVIDENDS	N/A	-0.7	N/A	-2.4	N/A	0.9

(Data supplied by MarketBase Inc. via Prodigy, Comm. Equipment listings.)

SkyFORUM REPRISE

If you missed it, or want to make sure you don't forget the details, there's still time to attend the best-ever seminar on today's rapidly-changing DTH business via this special SkyFORUM package. The package includes: An in-depth Industry Resource Manual (with DBS Business Models, up-to-date market research, interactivity info, company profiles and more) plus audio tapes of the entire SkyFORUM seminar. The costs are:

For SkyFORUM Attendees:

$100 for each additional manual (the first is free)
$ 50 for the seminar tapes

For Non-Attendees:

$650 for one manual and tapes

For more information, contact Pat Andrews at the SBCA
225 Reinekers Lane, Suite 600, Alexandria, VA 22314
Tele: 703/549-6990 Fax: 703/549-7640

SkyTRENDS Participants

Level 1

A&L Satellite
California Amplifier
Chaparral Communications
CSS/NPS
DirecTv
The Discovery Channel
DX Communications
Echosphere
EMI
ESPN
The Family Channel
General Instrument
Graff Pay-Per-View
Group W
HBO
Jones Satellite Programming
Liberty Satellite Sports
Lifetime
Netlink
NRTC
PrimeTime 24
Rainbow
Showtime
Southern Satellite
Superstar Sat.Entertainment
Thomson Consumer Electronics (RCA)
Toshiba
Turner Broadcasting
USA Network
USSB
The Weather Channel

Level 2 & 3

A&E
The Disney Channel
Earth Terminal
Galaxy Programming
KTI
O'Rourke Bros.
Panasonic
Playboy
Warren Supply Company
Zenith Electronics
AT&T
Channel Master
Eagle Satellite
Fujitsu
News Datacom
R. L. Drake
Satellite Receivers
Tee-Comm
Winegard Company

SkyREPORT

March 1994
Volume 1; Number 2

The DBS, C-band, Cable Conundrum:
Who's on First?

If you'd asked us a year or so ago which technology would most likely capture the hearts and minds of America's TV-viewing public, we would have said cable. Hands down. But things move fast in the info-techno-entertainment worlds. Since early '93 when cable seemed everywhere and fiber optics the buzzword of an entire nation, the mighty entertainment cabals have lost a little of their luster.

The first blow came in the guise of re-regulation and **FCC**-mandated rate rollbacks. (It didn't work out quite that way, but that's another story.) Then, just as DBS was preparing to launch high-power satellites, fiber optics began to look a bit overblown. Estimates of cost per-household wired reached $1000+ while suppliers proved unable to meet demand. (One fiber expert notes that the industry will not be able to produce enough product to wire America until the year 2047.)

On top of this came FCC-mandated rollback #2, followed by the prenuptial fallout of **Tele-Communications, Inc.** and **Bell Atlantic** and then the news that the much-ballyhooed Orlando (FL) fiber optic test has been delayed due to — guess what — equipment problems.

"***We expect competition to come immediately from DBS.***"
– David Beddow, Vice President, TCI Technology Inc.

Total Differential Costs
DBS vs Cable

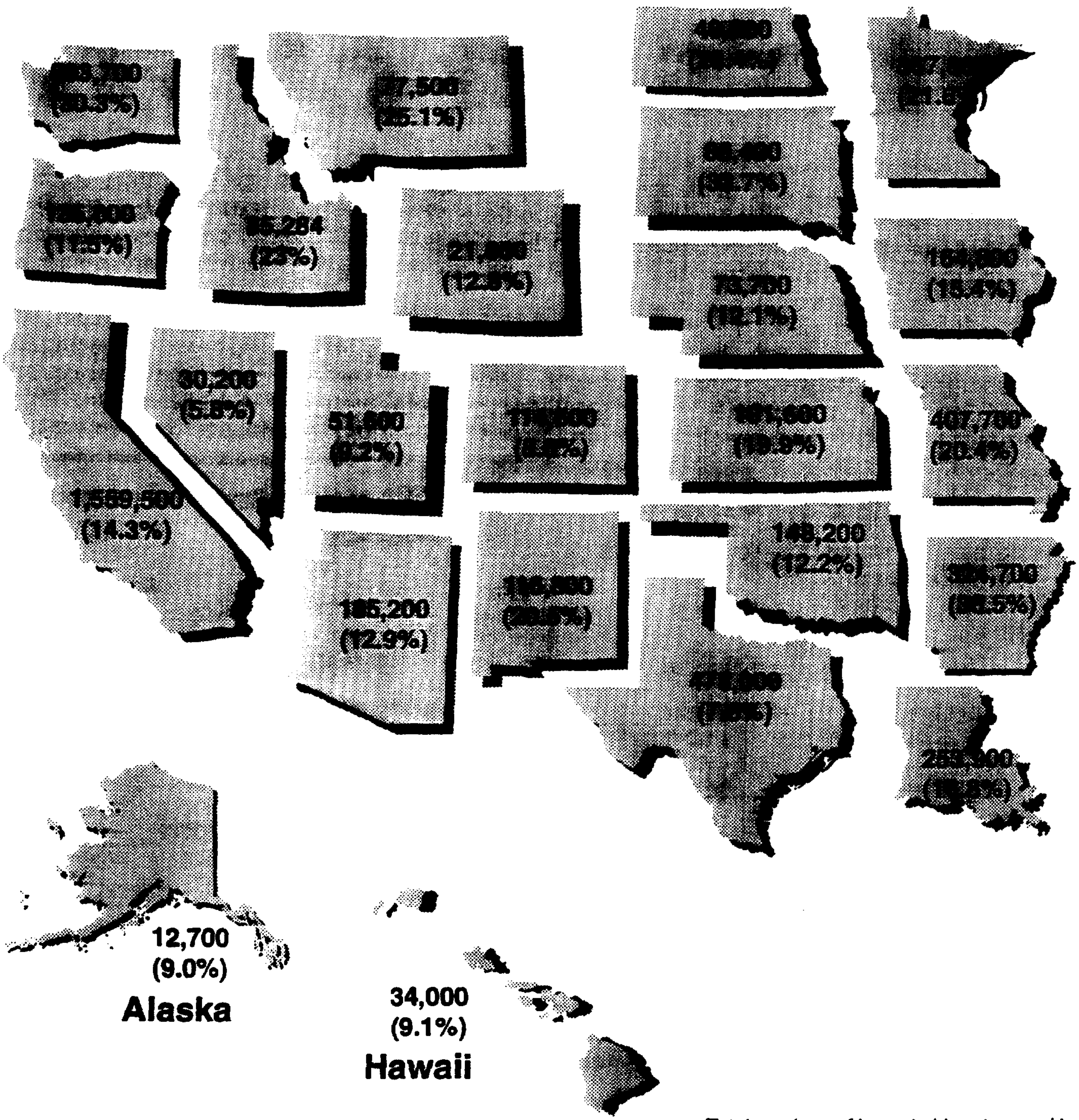
Category	DBS: $800 Dish Costs	DBS: $400 Dish Costs	Category	Cable: 150-200 chs upgrade costs	Cable: fiber optic upgrade costs
Satellite: $700-800 million upfront Equity Funded	$ 0	$ 0	Plant/acquisitions embedded in debt; annual interest cost per sub	$ 70	$ 70
Dishes w/ installation	$850	$450	Upgrade Costs	$300	$1000
Programming:			Programming:		
Basic	$ 22	$ 22	Basic	$ 36	$ 36
Pay	$ 30	$ 30	Pay	$ 60	$ 60
Subscriber acquisition and marketing costs	$ 40	$ 40			
'Differentiated cost' total	**$942**	**$542**		**$466**	**$1166**

(Data from Analysts' reports & SkyTrends research)

Suddenly DTH looks a lot better. In fact, top analysts such as *Mary Kukowski* at **Dillon Reed**, *Rich Billoti* at **Morgan Stanley** and former **Rand**-analyst *Leland Johnson* believe that as dish prices drop to the $300 to $400 stage, DBS will pose a "strong competitive threat" to cable.

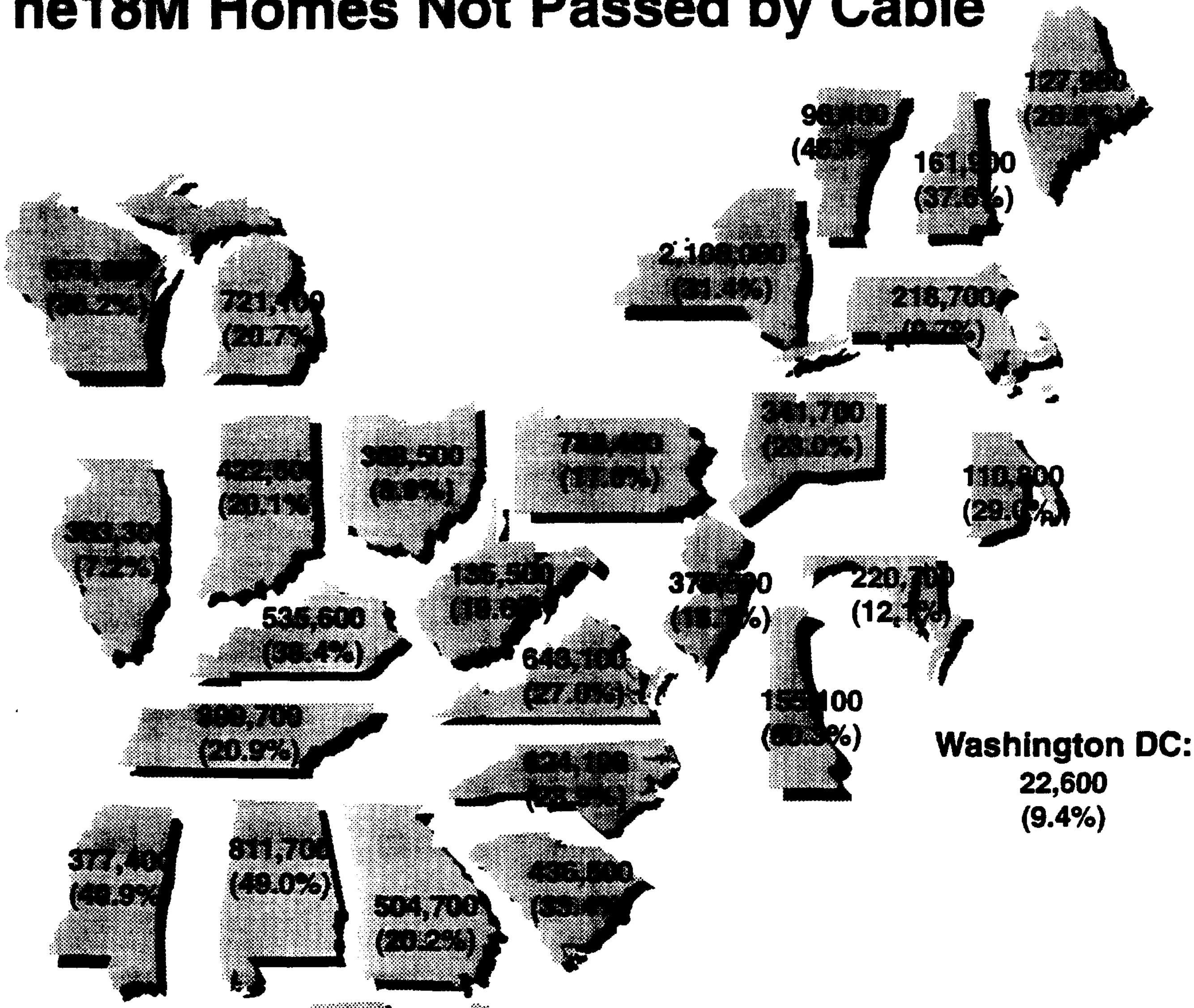
(Please turn to p. 4)

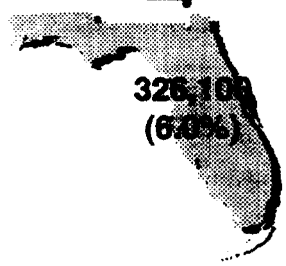
Low Hanging Fruit...



Total numbers of households not passed by cable calculated from A. C. Nielsen Co. data (September 1992) and 1993 TV & Cable Factbook, *vol. 61*

Easy Pickings?
The18M Homes Not Passed by Cable





To no one's great surprise, entrants in the DBS race are eyeing the easy pickings first -- the millions of households that fall in the unserved/under-served markets. In other words, the folks who either don't get cable at all or whose systems are so small that their offerings look like begger's bowls compared to the groaning boards of New York, LA, Chicago et al. (In-speak for this market is 'TV-deprived'.)

A glance at this map will show that the unserved markets comprise a considerable pool all by themselves. As of 1992, some 18 million homes were not passed by cable. Guesstimates suggest that as many as 1 to 2 million of these already have home satellite systems, which still leaves enormous openings for DBS. Add to that the some 2.5 million homes served by cable systems with 29 or fewer channels and you have approximately 20 million homes of which DBS operators estimate they need harvest only a few percent to become profitable.

Conundrum continued...

Most cable companies agree with that assessment. And, among the more prescient, have for some time.

For example, since the start of this decade, cable powerhouse TCI has held considerable interests in the home satellite business both through programming (**Netlink, Liberty Media**), through DBS services (the company holds a 22% stake in **PRIMESTAR**, a medium-power DBS service) and through satellites. (TCI shell-company **Tempo Development Inc.** has a contract with **Loral** to build a satellite for the coveted 119^0 spot. PRIMESTAR holds an option on the satellite's transponders.)

Says *David Beddow*, vice president, **TCI Technology Inc.**, "The satellite business is important to us and we expect it to grow." And to compete with cable. "On the cable side," he notes, "we'll eventually see competition coming from other cable companies and telcos. We expect competition to come immediately from DBS."

The DBS business, he adds, is likely to grow first in non-cabled areas – but he also

Scouting Report:

"Truth," says *Steve Effros*, President of the **Cable and Telecommunications Association,** "is a total defense."

With that clarion call, he's laid plans for an anti-DBS ad campaign featuring cartoons on such topics as:

– **Betamax and 8" Tapes:** For those of you who don't remember, these are failed technologies which left their buyers saddled with expensive product and little or no support. Imagine, if you will, an ad of some poor sap faced by a pile of junk technology on top of which is....

– **Leaves, leaves and more leaves:** "Can these things see through trees?" Effros asks. "Only if they have thin leaves."

– **Black-outs:** Verging on consumer fraud, Effros says, if DBS services place ads touting network feeds. "But you can only see (the feeds) in white areas."

Heard enough? Ladies and gentlemen, sharpen your pencils.

SkyTRENDS

A project of the **Satellite Broadcasting and Communications Association**
in conjunction with
MEDIA BUSINESS CORP
SBCA President: Chuck Hewitt
SBCA Project Chairman: Scott Weiss, Turner Home Satellite, Executive VP and GM
Project Managing Director: Evie Haskell

SkyREPORT

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SkyREPORT is a monthly newsletter produced by MEDIA BUSINESS CORP for the Satellite Broadcasting and Communications Association's SkyTRENDS project. The newsletter seeks to provide up-to-date business trend and statistical information for the financial community, members of the home satellite industry and all others interested in this business.

We would like to hear your comments and suggestions and would deeply appreciate any reports, data or other information that you might be willing to share. Confidentiality is guaranteed where requested.

Conundrum continued...

foresees incursions into cabled territories. Thus the company's considerable investment in home satellite. "Our whole philosophy," Beddow explains, "is to stay in position to keep our customers, whether by cable, DBS or wet string for that matter." Other cable companies are also eyeing DTH as a potentially potent competitive force – and massive ad campaigns to combat the threat are already in the planning stages. (See 'Scouting Report', p.4.)

Others such as *Hal Krisbergh*, president of **General Instrument's Communications Division,** believe DTH will find its best markets in predominately rural areas. (For an idea of the size of that audience, see 'Low Hanging Fruit" on pp. 2-3.)

As Krisbergh notes this could be a very profitable niche. By the turn of the century, he says, he expects DBS to go from "zero customers to three or four million." For the C-band side of the DTH business, he predicts growth to some five million customers.

(Other industry observers expect even larger DBS audiences, with turn-of-the-century estimates reaching upwards of 10 million.)

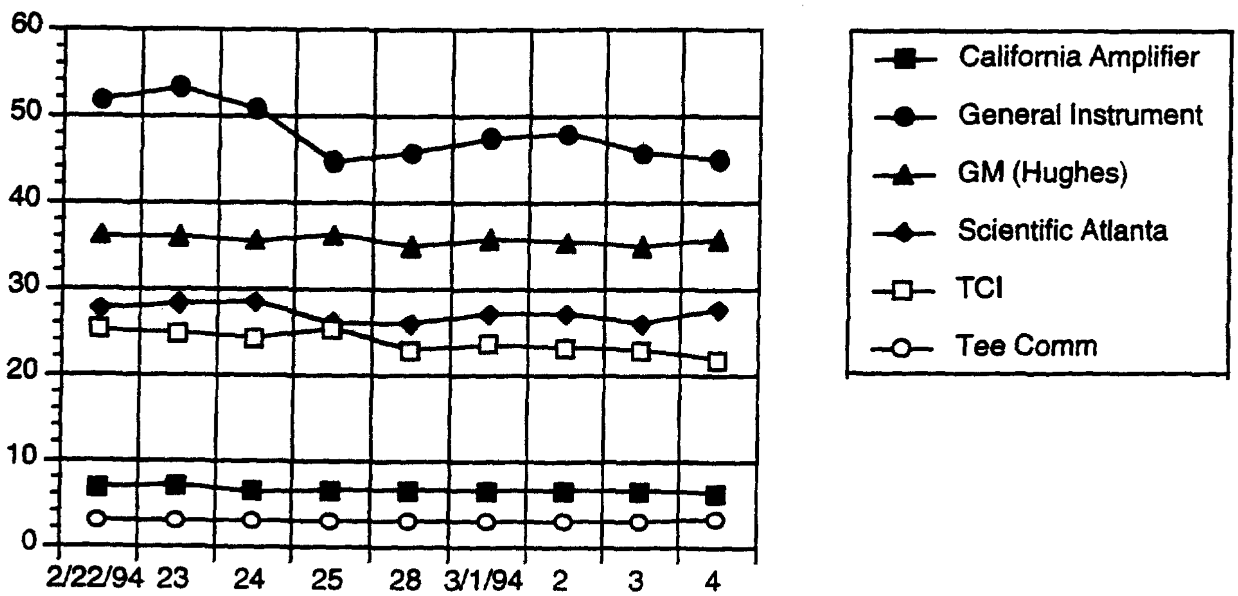
In addition, many home satellite experts say the technology could fill niche markets in areas such as business communications and education.

In our headlong rush to the info highway, says **Satellite Broadcasting and Communications Association** President *Chuck Hewitt,* "What we need to do is slow down" – and take a good hard look at who does what best.

"Fiber is the transmission of choice in heavily urbanized areas," he adds, "but we don't need to wire the whole nation, not with the wide mix of transmission choices that we have available."

Money Talks: Stock Watch from FCC Cable Rate Rollback to March 4, '94

Ouch. The FCC's decision to force an additional rate rollback of 7% (on top of the putative 10% late last year) caused a number of cable television companies – lead by **TCI's** angry *John Malone* – to announce cutbacks in construction and upgrade plans. That, in turn, lead to a stock sell off in cable and cable equipment companies ... with **GI** taking the hardest hit. While the effects might be only temporary (**Time Warner** announced a major converter buy from **Scientific Atlanta** in early March), it suggests a continued bumpy road for cable. Meanwhile, satellite players were ignored in the market ... perhaps it's time investors reassessed that.



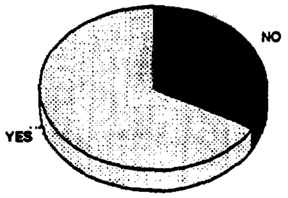
Retailers Bet on DSS

SkyREPORT survey finds high hopes

In February of this year, SkyREPORT conducted a random survey among SBCA retailer members. We asked about their businesses, equipment plans, their attitudes on DBS and their views of the future. As the following charts reveal, overall the retailers' outlooks range from good to excellent toward DBS.

Retailer Profile

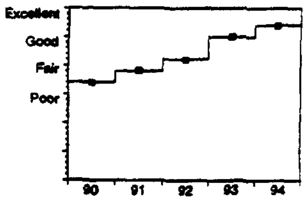
We asked retailers how many years their companies have been in business, their number of employees and number of stores. (Results shown respectively on the chart.) On average, home satellite retailers have been in business 14 years, have 10 employees and one store. The years in business skews high due to the fact that several TVRO dealers are long-time consumer electronics dealers who have added C-band to their product lines.



66% will keep current line-up

Vote of Confidence for In-Stock C-band Equipment

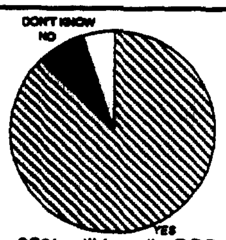
Two thirds of the retailers surveyed say they intend to stick with their current equipment line-up. Of those planning to change, some say they'll move into private label systems at lower prices while several others have a wait-and-see attitude with hopes that as DBS comes on stream, C-band equipment will come down in price.



'90-'94 Business Prospects Rise

Business Prospects Rising with 1994 Looking Best

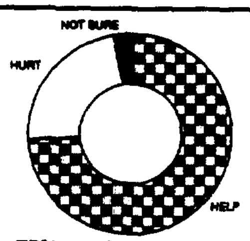
TVRO dealers reported a steady rise in their business fortunes, with 1994 looking best of all. On a scale of 1 to 5, where 1 represents an excellent year and 5 represents a terrible one, retailers reported 1990 as only 'fair' while prospects for 1994 ranged between 'good' and 'excellent'. Of those expecting poor sales in '94, virtually all cited the impact of DSS.



88% will handle DSS

C-Band Retailers Plan To Board DBS bandwagon

According to our poll, virtually everyone who currently sells C-band dishes plans to add DSS to their line-up. To wit: 88% of our respondents say they'll handle the RCA/Thomson equipment line-up, 7% do not and 5% have no idea. Of those saying yes, most (74%) plan to sell both DirecTV and USSB programming. A few of these also hope to handle PRIMESTAR equipment and programming through dealerships offered via TCI's Netlink.



75% see boost from DSS

DSS Expected To Boost C-band Sales

Three-fourths of our respondents expect the advent of DSS to boost their big dish sales. Increased public awareness of home satellite services and increased in-store traffic were cited as major advantages. Of those who think DBS will hurt their business, most cited price differences and a consumer wait-and-see attitude as as the key reasons.

DBS Kingpins... How They Plan To Sell

Confused about how the first-round of DBS players plan to sell their product? If so, you're not alone, but here's a quick guide to help:

Thomson Consumer Electronics (RCA) makes those 18" dishes and their satellite receivers under the Digitial Satellite Service (DSS) logo. The company has exclusive rights to sell the equipment for 18 months or up to the first 1 million dishes after which Sony will also gain manufacturing rights. Thomson's TVRO distribution will be managed through five regional representatives.

Existing RCA dealers, who have met Thomson's requirements, will be serviced by Thomson's direct sales. In addition, some 2000 TVRO dealers in 45 states have been approved by the five Thomson distributors plus approximately 300 **NRTC** dealers have the right to sell the equipment.

A staged rollout will begin this spring.

DirecTv (GM/Hughes) has an initial programming line-up of some 75 channels including 23 cable networks and significant pay-per-view offerings. All Thomson dealers who have met that company's criteria and who take a combined Thomson/DirecTv dealer course can sell the service. In addition, NRTC affiliates have exclusive rights to sell some 20 channels of programming in their areas. Like all DSS entrants, DirecTv predicts an April (read late April) rollout.

USSB (Hubbard Broadcasting) offers another 20-odd channels including 14 top cable services such as HBO, Showtime, Nickelodeon and MTV from the Hughes satellite via Thomson equipment.

USSB has no special requirements for dealers except that they must meet Thomson criteria. In addition, NRTC affiliates are eligible to sell the service by calling a USSB 800 number.

To boost sales of its service, USSB offers one month of free programming which dealers may use at their discretion.

National Rural Telecommunications Cooperative, otherwise known as the NRTC, made a deal with DirecTv long before DBS heated up. The essence of the agreement was that the cooperative would sell DirecTv territories to their affiliates. In exchange the affiliates would get exclusive rights to certain DirecTv programming.

As the deal eventually worked out, some 200 NRTC affiliates have received "exclusive rights" to a 20-channel "Best of Cable" line-up in their areas. The channels include Disney, CNN, USA Network, etc.

Other Thomson-approved dealers in the region may become agents of the NRTC programming package and would receive sales commissions on the 20 channel line-up.

The NRTC affiliates will sell Thomson equipment under a private label and may choose to lease, rent or sell the equipment outright.

For More Information:

DirecTv:
(310) 535-5113

NRTC:
(703) 787-0874

Thomson:
(317) 267-5000

USSB:
(612) 645-4500)

Hot Sales for Family Entertainment/Superstations

But Sports Takes Prize for Growth

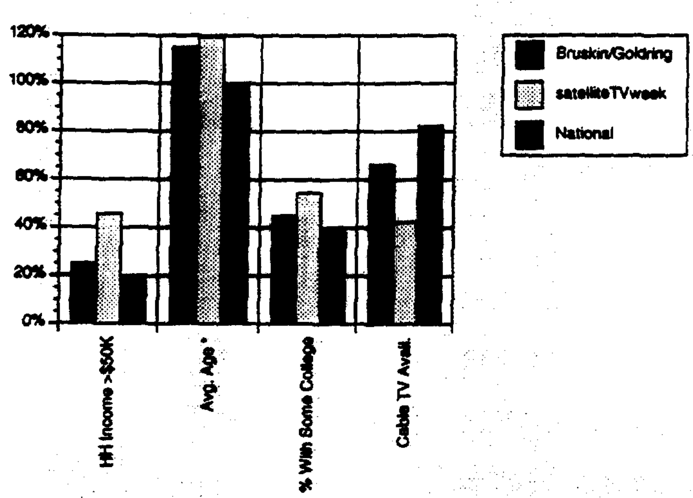
With more than 14 million subscribers to individual satellite programming services (up nearly four million in the six month period from June 1993 to December 1993), Family Entertainment clearly commands the greatest potential audience in the C-band subscriber line-up. With more than nine million subs, superstations garner second place while sports, premi-

Lies, Damned Lies and ....

As with all industry research, home satellite statistics tend to vary from study to study.. Below are selected results from two 1993 polls. The first, by **Bruskin/Goldring Research**, was conducted via telephone intervews with randomly selected home satellite viewers derived from a **Shoppers Mall** survey. The second is the result of a mail poll among randomly selected subscribers to **satelliteTVweek.**

Which is more accurate? We can't presume to say, but clearly the average home satellite viewer is richer, older and better educated that the average American. A substantial proportion, if not a majority of them, already have access to cable – a fact that bodes well for the popularity of DBS in already-cabled areas.

The 'Typical' Home Sat Viewer



* Age is expressed as a percentage of the national norm, 42.9 years.

SUBSCRIPTION SERVICE CATEGORIES:

Who Fits Where

PREMIUM

Showtime, The Movie Channel, HBO, Cinemax, Playboy, Spice, Disney, First Choice, RDS, SE/CF, Encore, Flix

SPORTS

ESPN, MSC, Liberty Satellite Sports, SportsChannels

SUPERSTATIONS & NETS

EMI (WOR/WSBK/KTLA, WOR/WSBK)
Netlink (NBC, CBS, ABC, KRMA, KWGN)
PrimeTime 24 (ABC, CBS, NBC)
Southern Satellite (WTBS)
Superstar (KTLA, KTVT/WPIX, WGN)

NEWS & WEATHER

All News Channel, CNN/HLN, The Weather Channel, CNBC

FAMILY ENTERTAINMENT

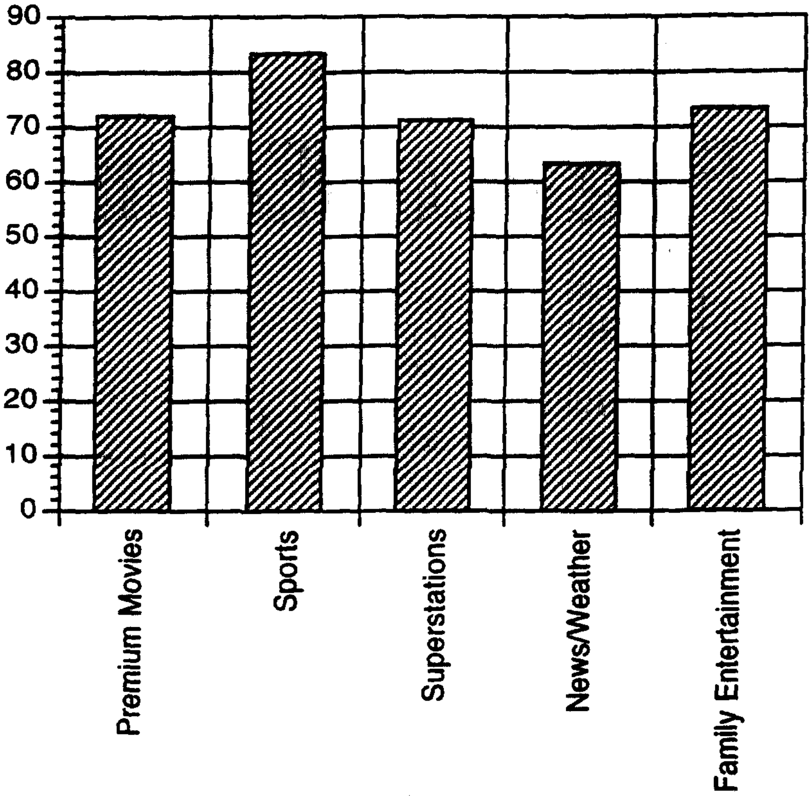
MTV/VH1, Nickelodeon, Comedy, TNT, A&E, USA, Family Channel, AMC, Lifetime, Bravo, Nashville, Discovery, Int'l Channel/RTP, Cartoon, SUR, CMT um movies and news/weather run far behind.

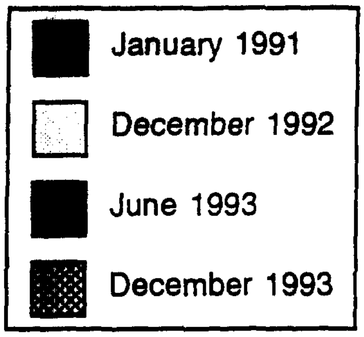
Interestingly, this is not necessarily the order in which subscribers place their programming preferences. In a Spring 1993 poll conducted by **satelliteTVweek** among randomly selected subscribers, respondents reported movies as their favorite form of satellite entertainment followed by sports and news. Family entertainment came out in fourth place.

Meanwhile, in terms of growth, sports outpaces the rest of the field with an astonishing 100% spurt between June '93 and December. This naturally suggests that the growing band of former pirates — who have had to convert to paid with **General Instrument's** switch to the unbroken VCII+ — are heavy sports fans.

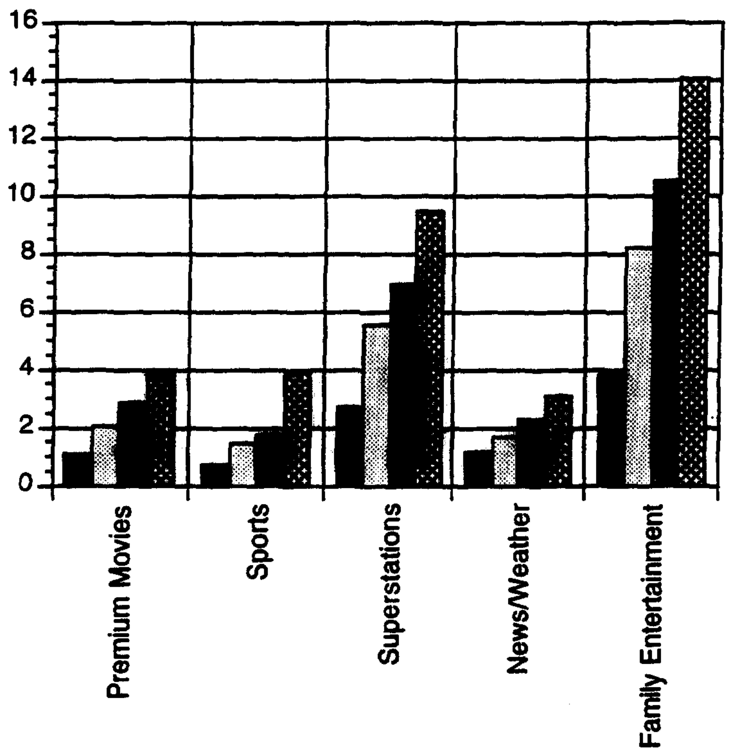
Note that GI's consumer data stream remains unbroken, meaning current subscriber figures show the actual number of household receiving the services (without a large and uncountable pool of pirates lurking somewhere off screen).

Subscription Service Growth By Percent: January 1991 - December 1993





Channel Growth By Millions of Customers: January 1991 - December 1993



CRITIQUES & CORRECTIONS:

Every publication has to do it at least once and, unfortunately, SkyREPORT is no exception. In our first issue, dated 1st Quarter 1994, we inadvertently listed CNBC as one of the many channels which can be received for free. This is inaccurate as all CNBC feeds are scrambled. Our most sincere apologies.

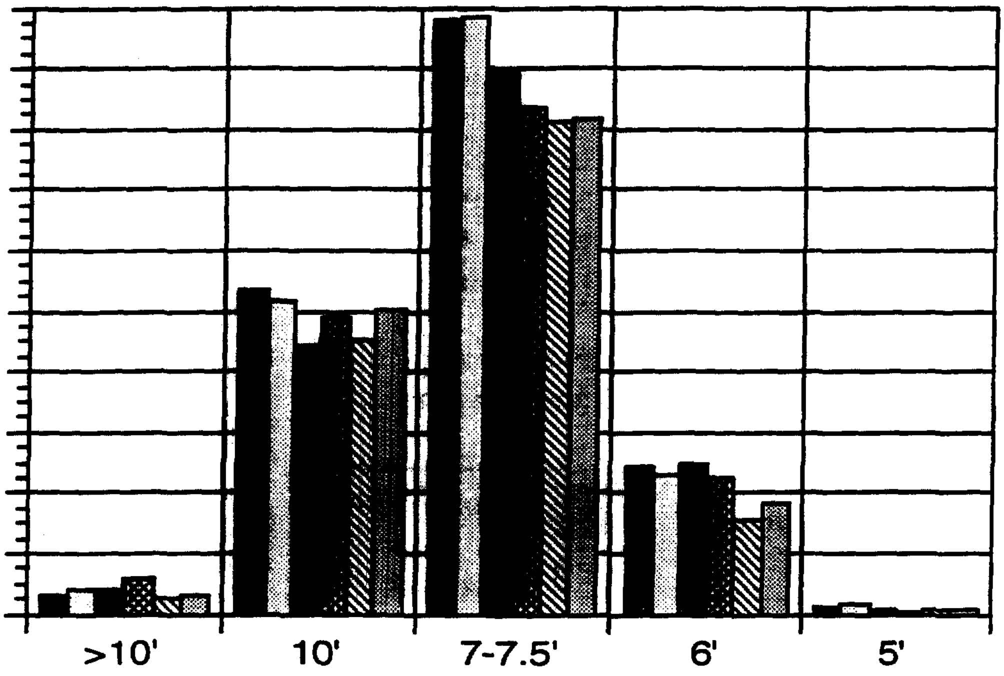
If you have comments or critiques on SkyREPORT, please don't hesitate to call SkyTRENDS Director, Evie Haskell in Media Business' offices, 303/271-9960. (Fax: 303/271-9965;)Address: 607 10th Street, Suite 103, Golden, CO 80401.)

Quakes, January Weather Freeze Equipment Sales

For retailers across the nation, January proved a bitter month — and the home satellite industry was no exception. As **Echosphere** Vice President of Sales *Dave Carlson* puts it, most of the United States was either shaken up or "frozen over" at the start of 1994 and poor sales literally shut down distribution branches for weeks at a time on the quaking west coast and the ice-bound east coast.

Not surprisingly, this is reflected in manufacturers' sales figures as antennas and receivers nose-dived from December.

ANTENNA SALES 9/93 - 2/94



Hardest hit were IRDs which took a more than 50% fall.

Conversely, feed horn sales skyrocketed in January. Why? "They break when they get too cold," says *Buddy Davis*, president of **Davis Antenna** and chairman of the **SBCA Retailers Council**. Davis says the actual antenna in a C-band system is found at the center of the horn in a fingernail-size bit of metal which moves to tune in different satellites. Thus the feedhorn is the part of the system most prone to breakage.

Holiday Hangover, and Other Such Natural Disasters...

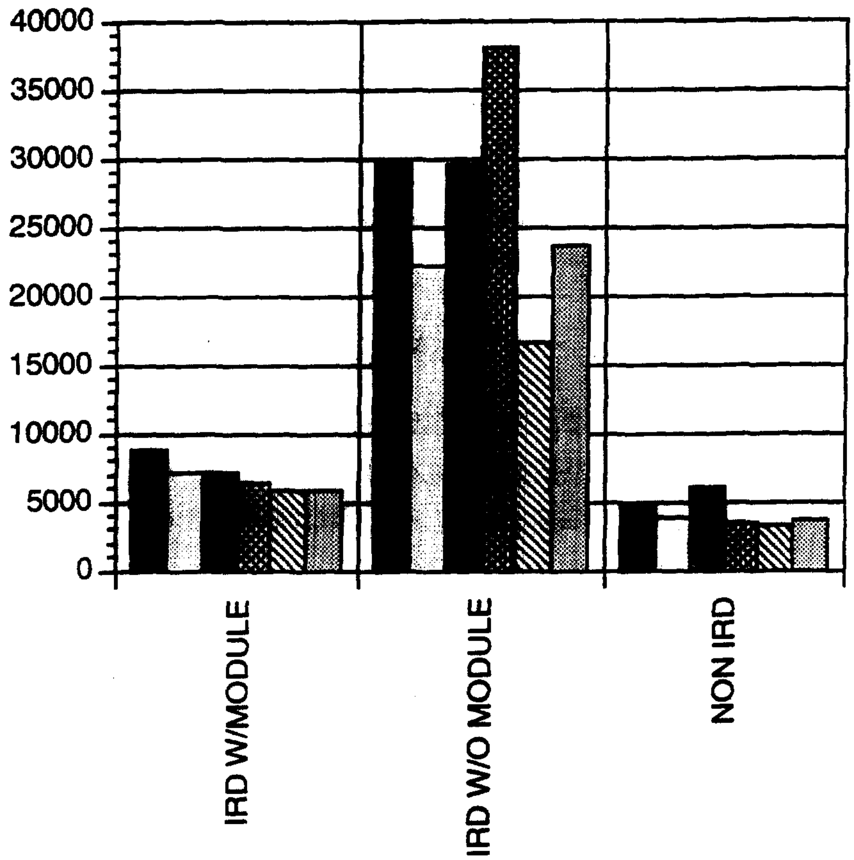
According to many sources, Mother Nature was not the only force responsible for declining sales. A traditional holiday slowdown takes its toll in November and December, followed by the "holiday credit card hangover" of January.

For February most antenna and receiver makers expect improved sales due to higher retailer demand, although *Bob Jackson*, marketing director for **R.L. Drake**, suggests that the retailers' hopes might be overly optimistic.

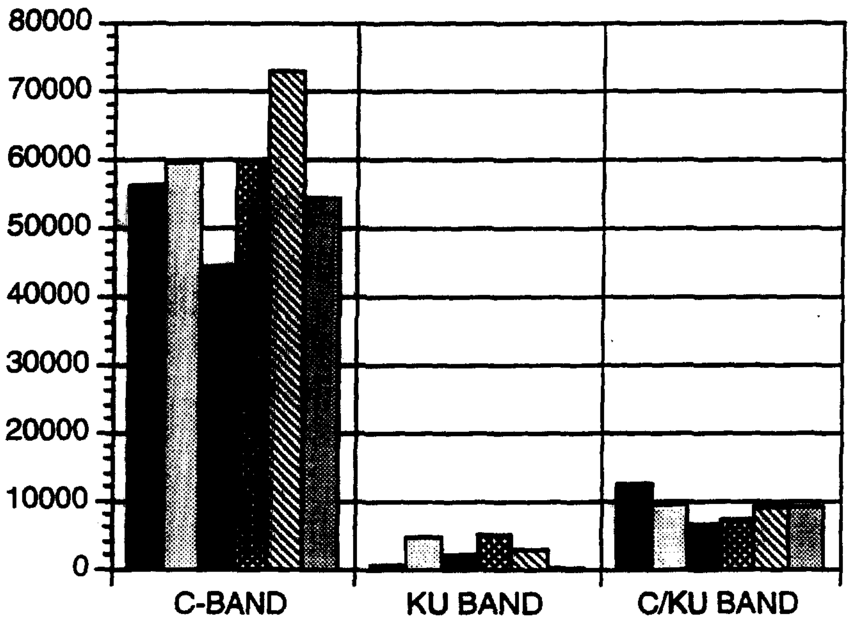
For the remainder of the year, predictions call for consistently improved sales as the hoopla surrounding DSS launches spills over into C-band. In addition, **SBCA** President *Chuck Hewitt* foresees "record levels" of conversions as former pirate customers turn in their now-useless equipment for unbroken VCII+ modules. Overall, Hewitt predicts as many as 300,000 to 400,000 in 1994 — a healthy boost to an already promising outlook.

A combination of factors literally shut down distribution branches for weeks at a time.

RECEIVER SALES 9/93 - 2/94



FEED HORN SALES 9/93 - 2/94



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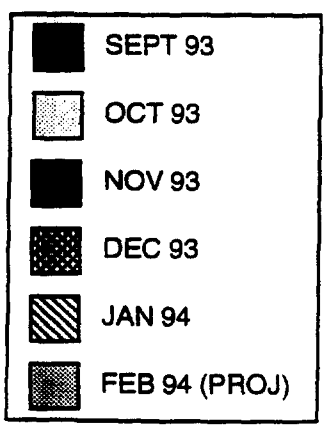
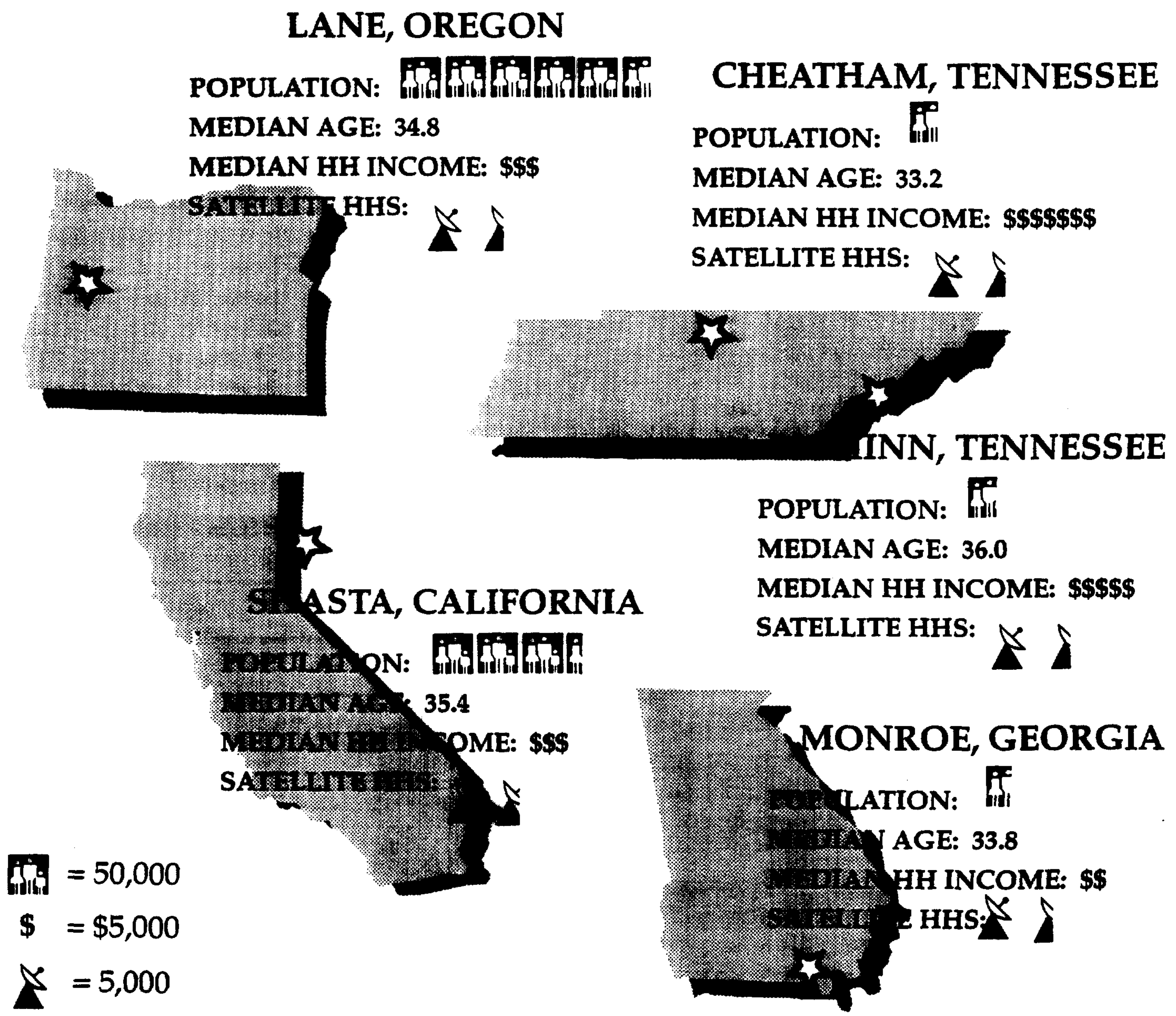


Home Sat Hot Spots

Where are you most likely to find C-band dishes blossoming across the landscape? SkyREPORT did a little digging and came up with some surprising answers. For example, Dade County, Florida — home to nearly 2.5 million people and a healthy cable system — sports some 20,000 dishes. Why? Snowbirds, most likely — a large population of displaced people who have historically used home sat to stay in touch via superstations.

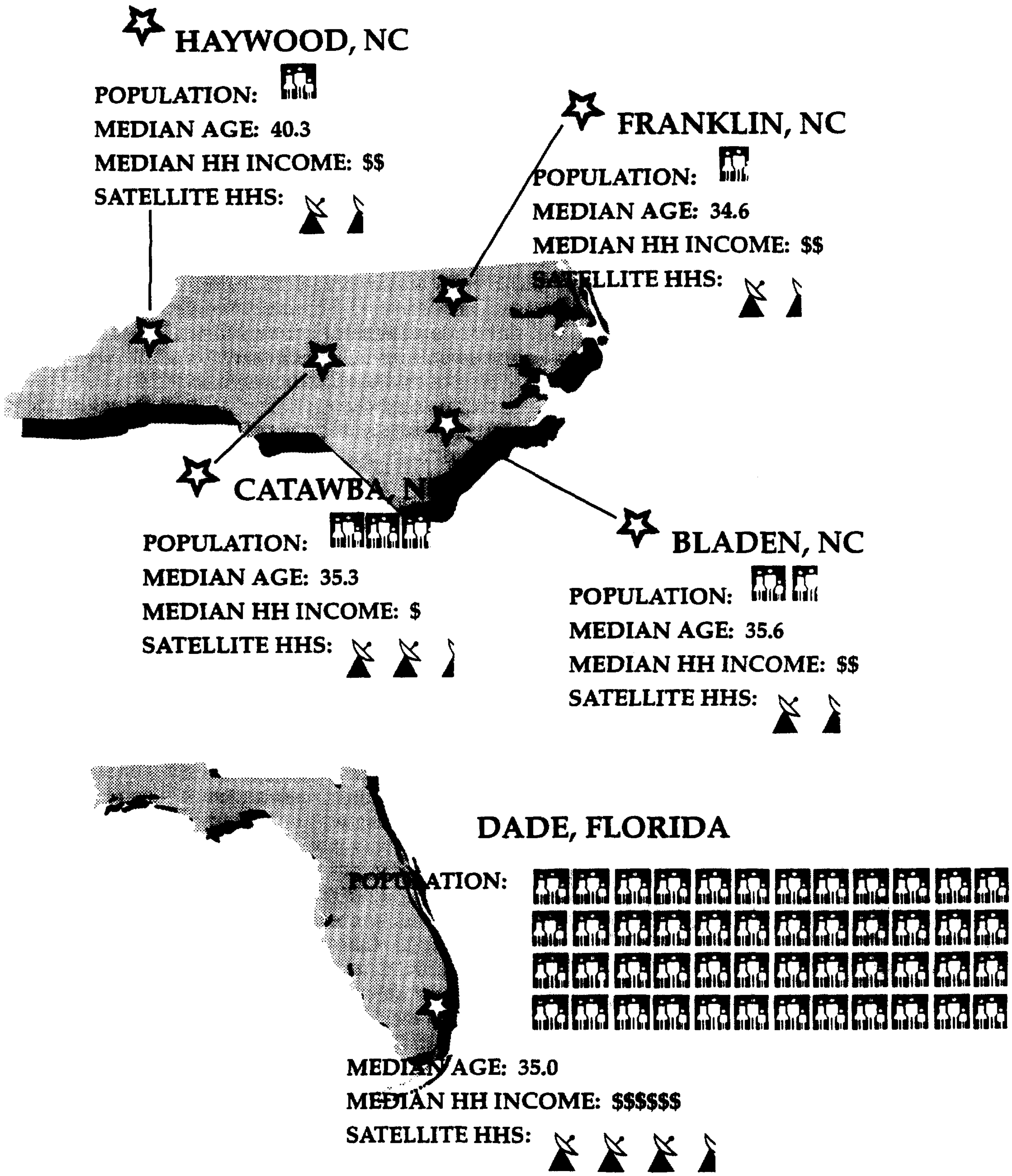
In North Carolina, which boasts four of the top ten counties, observers say the hefty dish figures are most likely due to two major in-state C-band businesses plus the fact that the state is



Information gathered from General Instrument data and CACI Marketing Systems' Sixth Edition, The Source Book of County Demographics.

a national center for stock car racing — which runs regularly on home sat.

The answers could also include excellent C-band retailers, a lack of cable, local topography, poor TV reception or any other of the dozens of factors that help boost home sat sales.



PRIMESTAR: First in the Field with 70K Customers

An Interview with John Cusick:

Having been up and running since November of 1990, **PRIMESTAR** — a mid-power Ku-band service backed by GE American and seven cable companies (see accompanying chart) — is today's only DBS service with actual experience in the business.

To wit: The FSS service boasts some 70,000 paying customers located in every state across the continental US. While this number is hardly overwhelming (and by no means profitable), it does demonstrate a potentially lucrative audience for DBS services: As PRIMESTAR President and CEO *John Cusick* says, today's viewers receive only 11 channels of video. But as channel numbers proliferate, conventional wisdom says, audiences should mushroom into the millions.

Not to miss the bandwagon, PRIMESTAR is moving to expand its service. The partnership will trade its **Scientific Atlanta** analog receivers for **General Instrument**'s DigiCipher — a $25-million commitment allowing PRIMESTAR to grow from 11 channels to 72 channels by mid-summer.

The first DigiCipher boxes will go to existing customers with channels added in monthly increments until the full complement is reached by mid-year. In another year or so, PRIMESTAR plans a move to GI's DigiCipher II with a MPEG II base, boosting channel capacity by another 80 to 100 channels.

Eventually, Cusick suggests, PRIMESTAR will switch to high-power satellites. The partnership holds an option on 11 transponders at the coveted 119^{0} spot. However, the service also holds options on all transponders on a TCI-(via Tempo Satellite Inc.) owned satellite due for a 1996 launch. No decision has been made on whether this satellite will be mid- or high-powered as the partners wait to see whether the 18" DSS dishes hold any real advantage over the BSS 36" models.

For selling PRIMESTAR's upgraded service, Cusick notes, "Our focus is not geographical but rather on the"low-hanging fruit" — the so-called 'TV-deprived' households with poor over-air reception and small or non-existent cable systems. Marketing efforts will come mainly from local distributors — with, of course, a boost from PRIMESTAR.

PRIMESTAR also has "very significant" plans on the national level. Says Cusick, "We want very much to provide this service to whoever wants it" - including cable-area customers.

(This is the first of a series of company profiles.)

PRIMESTAR Partners

Launched: November 1990

Ownership: Joint venture of GE American Communications, Inc. and Comcast Cable, Continental Cablevision, Cox Cable, Newhouse Broadcasting, Tele-Communications Inc. and Time Warner. With 22% , TCI holds the largest share interest.

Equipment: Scientific Atlanta analog receivers with Channel Master 3-foot dish. Will change to General Instrument DigiCipher over next 3-4 months.

Cost: Prices set by individual distributors but current system costs run approximately $150 for installed leased equipment or, in some Netlink areas, $995 for installed viewer-owned equipment. Programming and leasing now averages about $30/month.

Channels: 11 video channels with growth to 72 over next 3-4 months.

Programming: Current video includes CNN, TNN, The Family Channel, 4 superstations, WHYY (partial), 3 Prime-Cinema pay-per-view offerings, X*Press interactive services, TV Japan (optional) plus program info channels. Future offerings: HBO, Cinemax, ENCORE and ENCORE multiplexed channels, Discovery ...

Distribution: Cable partners and, in some Netlink areas, some DTH dealers.

Competitive Advantages: Head start on business; TCI's muscle; leased equipment instead of customer purchase.

Competitive Disadvantages: 3-foot dish vs DirecTv's and USSB's 18"; must trade out existing customers before adding new, delaying national rollout.

SkyTRENDS Participants

Level 1		Level 2 & 3
A&L Satellite	Liberty Satellite Sports	A&E
California Amplifier	Lifetime	The Disney Channel
CSS/NPS	Netlink	Earth Terminal
DirecTv	NRTC	KTI
The Discovery Channel	PrimeTime 24	O'Rourke Bros.
DX Communications	Rainbow	Panasonic
Echosphere	Showtime	Warren Supply Company
EMI	Satellite Sports Network	AT&T
ESPN	Southern Satellite	Channel Master
The Family Channel	Superstar	Chapparral Communications
General Instrument	Thomson (RCA)	Eagle Satellite
Graff Pay-Per-View	Toshiba	Fujitsu
Group W	Turner Home Satellite	News Datacom
HBO	USA Network	Playboy
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